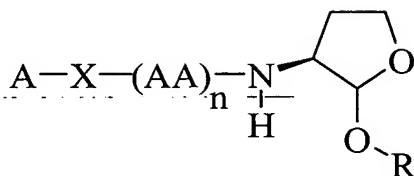


Claims

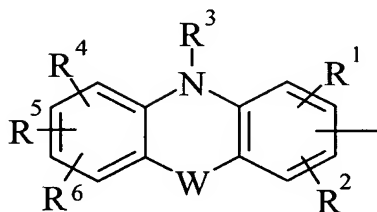
1. Compound of general formula (I)



(I)

in which:

A represents the



5 radical, in which

R^1 , R^2 , R^4 , R^5 and R^6 represent, independently, a hydrogen atom, a halogen atom, the OH group, an alkyl, alkoxy, cyano, nitro or NR^7R^8 radical,

R^7 and R^8 represent, independently, a hydrogen atom, an alkyl radical or a $-COR^9$ group,

10 R^9 represents a hydrogen atom, an alkyl or alkoxy radical,

R^3 represents a hydrogen atom, an alkyl radical or a $-COR^{10}$ group,

R^{10} represents a hydrogen atom or an alkyl or alkoxy radical, and

W represents a bond or a $-CH_2-CH_2-$, $-CH=CH-$, $-O-$, $-S-$ or $-NR^{11}-$ radical in which R^{11} represents a hydrogen atom or an alkyl radical;

15 X represents $-CO-$, $-Y-CO-$, $-O-Y-CO-$ or $-NR^{12}-Y-CO-$,

Y represents an alkylene or haloalkylene radical,

R^{12} represents a hydrogen atom, an alkyl radical or a $-COR^{13}$ group,

R^{13} represents a hydrogen atom, an alkyl, haloalkyl or alkoxy radical,

AA represents, each time that it occurs, a natural amino acid, a natural amino acid the side chain of which, which carries a reactive chemical function (such as carboxylic acid, amine, alcohol or thiol), is protected in the form of alkyl or aralkyl ester (for the acid functions), alkyl or aralkyl carbamate or alkyl or aralkyl carboxamide (for the amine functions), in the form of alkyl or aralkyl ether or alkyl or aralkyl thioether or in the form of alkyl or aralkyl ester (for the alcohol and thiol functions) or finally an amino acid of general formula $-NR^{14}-(CH_2)_p-CR^{15}R^{16}-CO-$ in which p represents 0 or 1, R^{14} represents a hydrogen atom or an alkyl radical, R^{15} represents a hydrogen atom or an alkyl radical and R^{16} a hydrogen atom, an alkyl, haloalkyl, phenyl, cycloalkyl, cycloalkylalkyl or alkenyl radical, —
or R^{15} and R^{16} forming with the carbon atom to which they are attached a saturated carbocycle with 3 to 7 carbon atoms (and preferably with 3 to 6 carbon atoms), an $-(AA)_2-$ group also being able to represent a carbapeptide of general formula $-NR^{17}-(CH_2)_3-CH(R^{18})-CO-$ in which R^{17} represents a hydrogen atom or an alkyl radical and R^{18} represents a hydrogen atom or an alkyl radical;

n represents 2 or 3; and finally

R represents a hydrogen atom or an alkyl or $-CO-R^{19}$ radical in which R^{19} represents an alkyl radical;

or salt of such a compound.

2. Compound of general formula (I) according to claim 1, characterized in that:

❖ R^1 , R^2 , R^4 , R^5 and R^6 represent, independently, a hydrogen atom, a halogen atom or an alkyl, alkoxy or NR^7R^8 radical;

❖ R^3 represents a hydrogen atom, a methyl radical or a $-COR^9$ radical in which R^9 represents a methyl or tert-butoxy radical;

❖ W represents a bond or a $-CH_2-CH_2-$, $-CH=CH-$, $-O-$ or $-S-$;

❖ X represents $-CO-$, $-Y-CO-$ or $-O-Y-CO-$;

❖ $-(AA)_n-$ contains amino acids chosen independently from the group constituted by the natural amino acids, 3-methylvaline, norvaline, phenylglycine, vinylglycine and 2-aminobutyric acid;

❖ n represents 2; and

❖ R represents a hydrogen atom or a methyl radical;

or salt of such a compound.

3. Compound of general formula (I) according to claim 1, characterized in that:

❖ R^1 , R^2 , R^4 , R^5 and R^6 represent, independently, a hydrogen atom or an alkyl or alkoxy radical;

❖ R^3 represents a hydrogen atom or a methyl radical;

5 ❖ W represents -O- or -S-;

❖ X represents -Y-CO- or -O-Y-CO-;

❖ $-(AA)_n$ - represents an $-(AA^2)-(AA^1)-$ such that AA^1 represents Leu and AA^2 represents an amino acid chosen from the group constituted by the natural amino acids, 3-methylvaline, norvaline, phenylglycine, vinylglycine and 2-aminobutyric acid;

10

❖ R represents a hydrogen atom;

or salt of such a compound.

4. Compound of general formula (I) according to claim 1, characterized in that it is chosen from the following compounds:

15 - N-(10H-phenothiazin-2-ylcarbonyl)-L-leucyl-L-leucyl-
 N^1 -[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;

- N-(10H-phenothiazin-2-ylcarbonyl)-L-leucyl-L-leucyl-
 N^1 -[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;

20 - N-(10H-phenothiazin-2-ylcarbonyl)glycyl- N^1 -[(3S)-2-methoxytetrahydrofuran-3-yl]-
L-leucinamide;

- N-(10H-phenothiazin-2-ylcarbonyl)leucyl- N^1 -[(3S)-2-methoxytetrahydrofuran-3-yl]-
L-leucinamide;

- N^6 -[(benzyloxy)carbonyl]- N^2 -(10H-phenothiazin-2-ylcarbonyl)lysyl-
 N^1 -[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;

25 - 1-(10H-phenothiazin-2-ylcarbonyl)-L-prolyl- N^1 -[(3S)-2-methoxytetrahydrofuran-
3-yl]-L-leucinamide;

- N-(10H-phenothiazin-2-ylcarbonyl)glycyl- N^1 -[(3S)-2-hydroxytetrahydrofuran-3-yl]-
L-leucinamide;

30 - N-(10H-phenothiazin-2-ylcarbonyl)leucyl- N^1 -[(3S)-2-hydroxytetrahydrofuran-3-yl]-
L-leucinamide;

- N⁶-[(benzyloxy)carbonyl]-N²-(10H-phenothiazin-2-ylcarbonyl)lysyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 1-(10H-phenothiazin-2-ylcarbonyl)-L-prolyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 5 - N-(10H-phenothiazin-2-ylcarbonyl)leucyl-N¹-[(3S)-2-(acetyloxy)-tetrahydrofuran-3-yl]-L-leucinamide;
- N²-(10H-phenothiazin-2-ylcarbonyl)lysyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N-(10H-phenothiazin-2-ylacetyl)-L-leucyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- 10 L-leucinamide;
- O-(tert-butyl)-N-(10H-phenothiazin-2-ylacetyl)-L-seryl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- N-(10H-phenothiazin-2-ylacetyl)-L-alanyl-3-cyclohexyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-alaninamide;
- 15 - N-(10H-phenothiazin-2-ylacetyl)-L-leucyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- O-(tert-butyl)-N-(10H-phenothiazin-2-ylacetyl)-L-seryl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N-(10H-phenothiazin-2-ylacetyl)-L-alanyl-3-cyclohexyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-alaninamide;
- 20 N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-alaninamide;
- N-[3-(10H-phenothiazin-2-yl)propanoyl]-L-leucyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[3-(10H-phenothiazin-2-yl)propanoyl]-L-leucyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 25 - N-[(10H-phenothiazin-2-yloxy)acetyl]-L-leucyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-glycyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-alanyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- 30 3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-valyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;

- N-[(10H-phenothiazin-2-yloxy)acetyl]- β -alanyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- N-methyl-N-[(10H-phenothiazin-2-yloxy)acetyl]glycyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- 5 - N-[(10H-phenothiazin-2-yloxy)acetyl]-D-valyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- 3-methyl-N-[(10H-phenothiazin-2-yloxy)acetyl]-L-valyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- 10 - N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-N²-((2S)-2-[(10H-phenothiazin-2-yloxy)acetyl]amino}butanoyl)-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-norvalyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-seryl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- 15 - N-[(10H-phenothiazin-2-yloxy)acetyl]-L-threonyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-N²-((2S)-2-[(10H-phenothiazin-2-yloxy)acetyl]amino}-2-phenylethanoyl)-L-leucinamide;
- 20 - N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-N²-((2S)-2-[(10H-phenothiazin-2-yloxy)acetyl]amino}but-3-enoyl)-L-leucinamide;
- 2-methyl-N-[(10H-phenothiazin-2-yloxy)acetyl]alanyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;
- 25 - N-[(10H-phenothiazin-2-yloxy)acetyl]-glycyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-valinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-glycyl-3-cyclohexyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-alaninamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-glycyl-N-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-phenylalaninamide;
- 30 - N-[(10H-phenothiazin-2-yloxy)acetyl]glycyl-N²-isobutyl-N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]glycinamide;

- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-leucyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-glycyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 5 - N-[(10H-phenothiazin-2-yloxy)acetyl]-L-alanyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-valyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-β-alanyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 10 - N-methyl-N-[(10H-phenothiazin-2-yloxy)acetyl]glycyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-D-valyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 15 - 3-methyl-N-[(10H-phenothiazin-2-yloxy)acetyl]-L-valyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-N²-((2S)-2-[(10H-phenothiazin-2-yloxy)acetyl]amino)-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-norvalyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 20 - N-[(10H-phenothiazin-2-yloxy)acetyl]-L-seryl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- N-[(10H-phenothiazin-2-yloxy)acetyl]-L-threonyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 25 - N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-N²-((2S)-2-[(10H-phenothiazin-2-yloxy)acetyl]amino)-2-phenylethanoyle)-L-leucinamide;
- N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-N²-((2S)-2-[(10H-phenothiazin-2-yloxy)acetyl]amino)-but-3-enoyl)-L-leucinamide;
- 2-methyl-N-[(10H-phenothiazin-2-yloxy)acetyl]alanyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;
- 30 - N-[(10H-phenothiazin-2-yloxy)acetyl]glycyl-N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-valinamide;

- N-[(10H-phenothiazin-2-yloxy)acetyl]glycyl-3-cyclohexyl-
N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-alaninamide;

- N-[(10H-phenothiazin-2-yloxy)acetyl]glycyl-N-[(3S)-2-hydroxytetrahydrofuran-3-yl]-
L-phenylalaninamide;

5 - N-[(10H-phenothiazin-2-yloxy)acetyl]glycyl-N¹-[(3S)-2-hydroxytetrahydrofuran-
3-yl]-N²-isobutylglycinamide;

- N-[2-methyl-2-(10H-phenothiazin-2-yloxy)propanoyl]glycyl-
N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;

10 - N-[2-methyl-2-(10H-phenothiazin-2-yloxy)propanoyl]glycyl-
N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;

- N-(10,11-dihydro-5H-dibenzo[b,f]azepin-3-ylcarbonyl)-L-leucyl-
N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;

- N-(10,11-dihydro-5H-dibenzo[b,f]azepin-3-ylcarbonyl)-L-leucyl-
N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;

15 - N-[(5-acetyl-10,11-dihydro-5H-dibenzo[b,f]azepin-3-yl)carbonyl]-L-leucyl-
N¹-[(3S)-2-methoxytetrahydrofuran-3-yl]-L-leucinamide;

- 2-methyl-N-[(10H-phenothiazin-2-yloxy)acetyl]alanyl-
N¹-[(3S)-2-hydroxytetrahydrofuran-3-yl]-L-leucinamide;

or salt of one of these compounds.

20 **5.** As a medicament, a compound of general formula **(I)** according to claim 1 or a
pharmaceutically acceptable salt of such a compound.

6. Pharmaceutical composition comprising, as active ingredient, a compound of general
formula **(I)** according to claim 1 or a pharmaceutically acceptable salt of such a
compound and at least one pharmaceutically acceptable excipient.

25 **7.** Use of a compound of general formula **(I)** according to claim 1 or a pharmaceutically
acceptable salt of such a compound for preparing a medicament intended to inhibit
calpains.

8. Use of a compound of general formula **(I)** according to claim 1 or a pharmaceutically
acceptable salt of such a compound for preparing a medicament intended to inhibit lipid
30 peroxidation.

9. Use of a compound of general formula (I) according to claim 1 or a pharmaceutically acceptable salt of such a compound for preparing a medicament intended to inhibit calpains and lipid peroxidation.

5 10. Use of a compound of general formula (I) according to claim 1 or a pharmaceutically acceptable salt of such a compound for preparing a medicament intended to treat disorders and diseases chosen from the group constituted by the inflammatory and immunological diseases, cardio-vascular and cerebro-vascular diseases, disorders of the central or peripheral nervous system, osteoporosis, muscular
10 dystrophy, proliferative diseases, cataract, rejection reactions following organ transplants and autoimmune and viral diseases.